

Applicant : Clyde Fraisse, et al.  
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Attorney's Docket No.: 10436-054001

### RF MARKS

In the Action mailed October 7, 2003, the Examiner rejected all then pending claims 1-33. In this Amendment, Applicants amend claims 1, 3-4, 22 and 24-25, and cancel claims 2, 5, 23 and 26. As such, claims 1, 2-4, 6-22, 24-25 and 27-33 are pending. Applicants request reconsideration of the pending claims in view of the Amendment and the following remarks.

#### **Claim Rejections – 35 USC 103**

The Examiner rejected claims 1, 2, 5-13, and 26-33 under 35 U.S.C. 103(a) as being unpatentable over Hauwiller et al. (6,236,907). Of these, claims 1, 16 and 22 are independent claims. The Examiner also rejected the remaining dependent claims 3, 4, 24 and 25 under Hauwiller et al. in view of Biggs et al. (6,393,927).

Applicants have amended each of independent claims 1 and 22 to recite that the field characteristic is a measure of biomass by the field in one or more growing seasons. The amendment adds no new matter. Support for the amendment appears in the specification as originally filed, for example, in Figures 2-5 and specifically in block 124 of Figure 2. In addition, Applicants have cancelled dependent claims 2, 5, 23 and 26, and, in view of having cancelled certain claims upon which others still pending depend, Applicants have also amended dependent claims 3-4 and 24-25 to identify the proper base claim upon which each claim depends.

Applicants submit that each of the independent claims 1 (as amended), 16 and 22 (as amended) defines an invention that is patentable over Hauwiller et al., either alone in combination with any other reference. Applicants point out that Hauwiller et al. issued May 22, 2001, and thus is not prior art under 35 U.S.C. 102(b); as such, Applicants distinguishing herein their pending claims from Hauwiller et al. should not be taken as an admission that Hauwiller et al. is in fact prior art under any provision of 35 U.S.C. 102.

Applicants' independent claim 1, as intended, is directed to a method, implemented in a computer program, to provide a map of site-specific amounts of a soil nutrient to be applied in fertilizer to an agricultural field divided into sites. The method includes calculating for the field,

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from a map of site-specific field characteristics data for the field, a map for the field of site-specific amounts of the soil nutrient need to produce at each site a maximum crop yield. The field characteristic is a measure of biomass produced by the field in one or more growing seasons. The method also includes subtracting, from the site-specific soil nutrient amounts for maximum yield for the field, site-specific measures of the soil nutrient existing in the field, thereby producing a map of site-specific amounts of the soil nutrient to be applied in fertilizer to the field.

Applicants' independent claim 16 is likewise directed to a method and includes limitations similar to those set forth in independent claim 1, as well as additional limitations. Applicants' claim 22 is directed to a computer program that has instructions for causing a computer to perform the method recited in claim 1.

Hauwiller et al. discloses a system and method for creating variable-rate application maps for applying dispensing materials to a field. Hauwiller et al. discloses that a system 200 (shown in Fig. 2) for creating such a map uses geographical data 204 that includes soil sample data 210. (Col. 4, lns. 1-9.) Hauwiller et al. also discloses that the soil sample data may include soil test data in either systematic or random form of soil nutrient levels, soil pH, soil texture and characteristics, organic matter, etc. (Col. 4, lns. 9-12.) Hauwiller et al. also discloses that recommendation equations 226 (shown in Fig. 3) may determine dispensing rates for materials based upon soil map data 210 and defined yield potential or productivity for a particular crop based upon field characteristics or conditions. (Col. 9, lns. 29-32.) Hauwiller et al. discloses that desired yield potential varies depending on the soil characteristics by location, and that therefore, an expert system may calculate dispensing rates by location based upon the desired recommendation equation with incorporates a yield goal map based upon soil properties, or alternatively the recommendation equation may use a constant yield goal for the field. (Col. 9, lns. 32-38.) Hauwiller et al. further disclose that a soil characteristic map is inputted to the system to construct a yield goal map for creating an application map based upon site-specific yield goals and that the soil characteristic map may be a commercially available digital soil

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characteristic map. Hauwiller et al. discloses that the yield goals may be assigned to each soil characteristics area based upon a particular crop.

Hauwiller et al. does not disclose Applicants' invention as set forth in either of independent claims 1, 16 or 22. For example, Hauwiller et al. does not disclose, as is required by each of claims 1, 16 and 22, calculating for a field, from a map of field characteristic data for the field, a map for the field of site-specific amounts of a soil nutrient need to produce at each site a maximum possible crop yield, wherein the field characteristic is a measure of biomass produced by the field in one or more growing seasons. Rather, Hauwiller et al. discloses the use of a soil characteristic map to construct a yield goal map.

Neither does Hauwiller et al. render Applicants' invention obvious. Applicants' use of a measure of biomass in calculating site-specific yield goals is very convenient and thus cost-effective, and also produces an accurate site-specific yield goal. The use of a measure of biomass is convenient and thus cost-effective because such a measure is contained within a satellite image of the field during one or more past growing seasons, as is explained in Applicant's specification at page 9, starting at line 6. By contrast, Hauwiller et al. discloses the use of a soil characteristic map to produce a site-specific yield goal map, and states that such a map may be commercially available. Although Hauwiller et al. does not explain what is meant by a commercially available soil characteristic map, presumably soil sampling would be involved in creating such a map, which is not as convenient, and thus not as cost-effective, as using a biomass characteristic.

As for Biggs et al., which was cited in the rejection of certain dependent claims, this reference does not supply the teaching missing from Hauwiller et al., and indeed, the Examiner has not contended that Biggs et al. supplies the missing teaching.

Accordingly, independent claims 1, 16 and 22 each define an invention that is patentable over Hauwiller et al., either alone or in combination with any other reference including Biggs et al. In addition, dependent claims 2-4, 6-15, 7-22, 24-25 and 27-33, which each depend either directly or indirectly from one of claims 1, 16 and 22, are likewise patentable.

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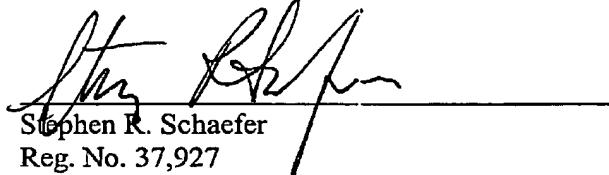
CONCLUSION

Applicants submit that pending claim: 1, 2-4, 6-22, 24-25 and 27-33 are in condition for allowance, and respectfully request their prompt allowance. In addition, it is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the argument made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

A Petition for Extension of Time is being submitted, as is an authorization to apply the charge for the three-month extension of time fee to Deposit Account 06-1050. No additional fee is believed to be owed, but if an additional fee is owed, please apply any other charges or credits to Deposit Account 06-1050.

Respectfully submitted,

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